

HORTICULTURE

SAVING THE FRUIT CROP FROM FROST.

Mr. Hamilton Tells His Experience in Orchard Heating.

The question of protecting the orchards from the late frosts should they occur, by means of smudge pots is at this time of the utmost importance to the orchardists of this valley. Therefore, anything bearing on this subject will be read with interest by all. The following article on orchard heating appeared in the last issue of the Denver Field and Farm. It was written by J. L. Hamilton, who gives his experiences of last season in the use of oil smudge pots in saving his crop of fruit on his place near Grand Junction. Mr. Hamilton writes:

"The results of my work were of such a nature as to leave no doubt as to the effectiveness of this system. My orchard is made up of

twenty acres of bearing trees, principally apples, trees about fifteen years old, of good size and uniform. They are but twenty feet apart and the branches are very close overhead, which made an ideal condition for smudging with heat. Late in the day of April 25th, I was very busy preparing to save my crop from the freeze the weather bureau had warned us was approaching and was due that night. Previous to that time no preparations had been made by anyone in the Grand valley for smudging, as the winter had been cold, and the spring ideal in every respect. The growers felt secure so far as any possible damage from frost might occur.

This was my condition, but immediately upon receipt of the warning I felt that to sit by and watch this old Hun of the skies invade my orchard and destroy my crop with no ef-

fort on my part to interfere would end with results that I would not relish and I might feel that I could at least try something. This I concluded to do, and at once secured several hundred gallons of kerosene oil, cheaper oil not to be obtained at that time, and with this equipment set in the orchard and the pots filled with oil, we waited for the temperature to reach the danger point. In this we had but a short time to wait after preparations had been completed and when the thermometer showed thirty degrees we began firing. The entire field of pots was fired in about fifteen minutes, after which I carefully noted the temperatures and made readings from five thermometers. I located two thermometers outside the heated zone and well away from any possible effect of radiation and three inside the heated zone, one in the middle and two near each edge or about the second tree row inside the heat. Within ten minutes after the pots were fired the mercury went up to 32 while on the outside the reading showed 29. At this time we were burning but forty pots to the acre, and a reading made an hour later

showed the outside temperature to be 27 while inside it was 33. The pots were lighted at 10:45 p. m. and burned until about 6:45 a. m., or eight hours. The thermometer had been active on the outside going as low as 23 for two hours and for thirty minutes it reached the low mark of 21. We had filled pots and refilled pots during the night and consumed about 1,000 gallons of kerosene oil. Owing to the supply running low we abandoned all but ten acres and on this plot we made our stand for a finish fight.

We maintained a temperature all night in the heated area of 30 and above excepting the 30-minute period when the temperature outside reached the 21 mark it also went down in the heated area and reached 28 for thirty minutes. All the damage I received on this ten acres was at this period and probably represented many hundred boxes of apples. The filling process was a very tedious and tiresome task and had my force of men been any other than neighboring fruit growers bent on seeing the experiment carried to success I would have lost the entire force. The sun rose on a very tired crew but also on a good crop of fruit that had been saved from the frost. It had been a hard task and had cost considerable but the mark had been set and the impossible thing had been accomplished. The next day I secured more pots and more oil and this same fight

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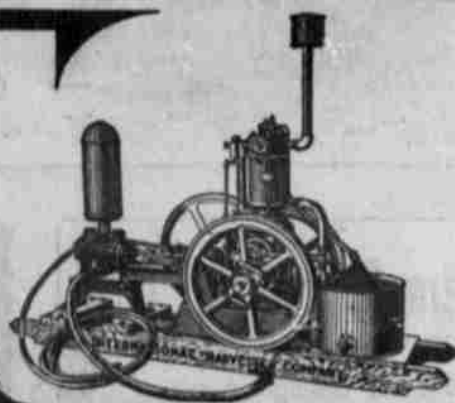
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